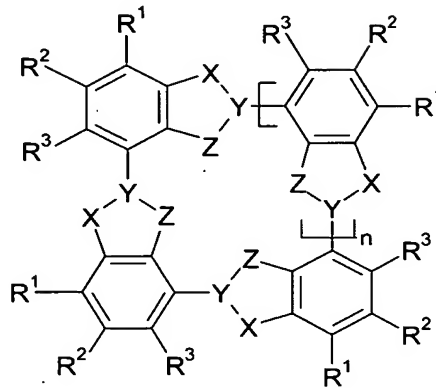


Abstract

5 The use of cyclic compounds of the formula (I)



10

where

n is a number in the range from 1 to 7,

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X-Y-Z, in each case independently of one another, is O-C=N, N=C-O, NR<sup>5</sup>-C=N, N=C-NR<sup>5</sup>, N<sup>+</sup>R<sup>5</sup><sub>2</sub>-C=N, N=C-N<sup>+</sup>R<sup>5</sup><sub>2</sub>, O-C=N<sup>+</sup>R<sup>5</sup>, N<sup>+</sup>R<sup>5</sup>=C-O, S-C=N<sup>+</sup>R<sup>5</sup>, N<sup>+</sup>R<sup>5</sup>=C-S, S-C=N, N=C-S,

20

R<sup>1</sup>, R<sup>2</sup> and R<sup>3</sup> each independently are, for example, H or a substituent

or corresponding heterocyclic compounds in which at least one group -CR<sup>1</sup>=, -CR<sup>2</sup>=, CR<sup>3</sup>= is replaced by -N,

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R<sup>5</sup> in each case independently are, for example, H or a substituent

R<sup>7</sup>, in each case independently of one another, are H, C<sub>1-12</sub>-alkyl or C<sub>6-12</sub>-aryl,

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or metal complexes of the cyclic compounds or complexes of the cyclic compounds with mineral acids,

chloride, sulfate, bisulfate, phosphate, hydrogen phosphate, nitrate,  $\text{BF}_4^-$  or methanesulfonate being present as opposite ions  $\text{X}^-$  in the case of cationic cyclic structures,

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as light absorbers, materials for hole injection layers in OLEDs, light-emitting compounds in OLED, phase-transfer catalysts or synergistic agents for the dispersing of pigments or for optical data storage, is described.